

Work Order ID 71273

Friday, June 24, 2011 3:43:55 PM

ASAP



Page 1

Item ID: D3177-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Bracket

Start Date: 6/24/2011 Start Qty: 2.00



Cust Item ID:

Required Date: 6/30/2011 Req'd Qty: 2.00



Customer:

Reference:

Approvals:

Process Plan:

Handwritten initials

Date: 11/06/27

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D3177

Rev B2

100

0.00



BAND SAW

0.00

Bandsaw

Memo

Jeaspa Bandsaw

Cut blank: 47.40" x (12.000" +0.100/-0.000)

Handwritten: OK 11/06/28

Handwritten: 2 P

110

0.00



HAAS CNC VERTICAL MACHINING #1

0.00

HAAS 1

Memo

HAAS CNC vertical machine #1

1-Machine part as per Folio FA291 and Dwg D3177□2-Deburr

Handwritten: OK 11/06/28

Handwritten: 2 P

Handwritten: P10 →

120

0.00



QC2- Inspect parts off machine FAI/FAIB

0.00

QC

Memo

Quality Control

Handwritten: OK 11/06/28

Handwritten: 2 P

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3177-041 PAR #: N/P Fault Category: Prod/Stores NCR: (Yes) No DQA: 11 Date: 11.07.11
11-704 Resolution: Use as is Disposition: Use as is QA: N/C Closed: OK Date: 11/09/11

NCR: <u>71273</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
11.06.28	110	0.700" Dim 15 0.684" (tol = +0.010 -0.000) R.C. material has bend Due to storage here at Dart.	<u>CP</u> 11.06.28 <u>BS/042</u>	Acceptable. Difference in inertia is $\approx 2\%$. No significant effect on M.S. of SR-D307014 (M.S. = 0.24)	<u>OK</u> 11/06/28	<u>SL</u> 11/06/29	<u>CP</u> 11.06.28 <u>BS/042</u>	<u>8</u> 11/06/28

NOTE: Date & initial all entries

Work Order ID 71273

Friday, June 24, 2011 3:43:55 PM



Page 2

Item ID: D3177-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Bracket

Start Date: 6/24/2011 Start Qty: 2.00



Cust Item ID:

Required Date: 6/30/2011 Req'd Qty: 2.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 	QC8- Inspect parts - second check	0.00							
QC Quality Control	Memo	0.00							
140 	Chemical Conversion Coat per QSI005 4.1	0.00							
HandFinish Hand Finishing	Memo	0.00							
150 	Small Fab	0.00							
Small Fab Small Fab	Memo 1-Press D3177-5 Spacers as shown on Dwg D3177	0.00							

SL 11/06/29

2 BL 11-6-30

E/S 11/07/04 (2)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 71273

Friday, June 24, 2011 3:43:55 PM



Page 3

Item ID: D3177-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Bracket

Start Date: 6/24/2011 Start Qty: 2.00



Cust Item ID:

Required Date: 6/30/2011 Req'd Qty: 2.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

160

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

Powder Coating

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

2x 11/07/04

M117745

2-30
3200F
3-00

170

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

2 11-7-4

180

Small Fab

0.00



Small Fab

Memo

0.00

Small Fab

Assemble as per Dwg D3177

9/5/07/05 (2)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

Work Order ID 71273

Friday, June 24, 2011 3:43:55 PM

Page 4

Item ID: D3177-041

Accept

Setup Start

Revision ID:

Stop

Item Name: Bracket

Start Date: 6/24/2011 Start Qty: 2.00

Cust Item ID:

Required Date: 6/30/2011 Req'd Qty: 2.00

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

200

Identify as per dwg & Stock Location:

0.00



Packaging

Memo

0.00

Packaging

210

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

8 W/O's

②

6/27/11 ②

nhk

ME
11-07-05

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Friday, June 24, 2011 3:44:01 PM

Page 1

Parent Item Name: Bracket

Required Date: 6/30/2011

Required Qty: 2.00

Comments: IPP Rev:B03.01.270Added Step 120KJ/RF

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6B1.000X13.00 0		Purchased	No				f	0.0000		4			
M115173 X 4.00													
over 11/06/27													
6061T6 BAR 1.00 X 45.00 MS27039-1-11		Purchased	No			100	Each	66.0000	1				
Screw													
15.8g / This Batch Only													
EBS 11/07/05													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				MEZZ				66					
				9662				66					
AN960JD10	NAS1149D0363J	Purchased	No			180	Each	0.0000	3				
Washer													
BLRS-010		Purchased	No			180	Each	25.0000	1				
Pip Pin													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST283				25					
				116348				3					
				117784				12					
				117785				10					
D2690-6		Manufactured	No			180	Each	46.0000	1				
Lanyard Assembly													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST020				46					
				66873				1					
				70920				45					
2													

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Friday, June 24, 2011 3:44:01 PM

Work Order ID: 71273

Parent Item: D3177-041

Parent Item Name: Bracket



Start Date: 6/24/2011

Required Date: 6/30/2011

Start Qty: 2.00

Required Qty: 2.00

D3177-5

Manufactured No

180

Each

29.0000

4

8



Spacer



86 11/27/04

Location

Loc Qty

Loc Code

ST039

29

20295

29

8

MS21042L3

Purchased

No

180

Each

1,959.000

1



Nut



2 11/27/04

Location

Loc Qty

Loc Code

ST300

1959

116549

259

117441

800

117601

400

117885

500

2

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____
Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

D3065-5DART AEROSPACE LTD		Work Order:	71273
Description: Bracket		Part Number:	D3177-1
Inspection Dwg: D3177 Rev: B2		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.970	+0.010/-0.000	.971	—		Vern	72-7
R0.125	+/-0.010	R.125	—		R-L	
0.700	+0.010/-0.000	.684		—	Vern	72-7
0.188	+0.010/-0.000	.198	—		"	"
0.300	+/-0.010	.300	—		"	"
10.776	+/-0.005	10.774	—		Vern	CAL-02
R0.625	+/-0.010	R.625	—		"	ML-7
Ø0.261	+0.005/-0.000	Ø.264	—		"	"
0.200	+/-0.010	.195	—		"	"
0.970	+0.010/-0.000	.973	—		"	"
Ø0.203	+/-0.005	Ø.203	—		"	"
Ø0.625	+0.001/-0.000	Ø.626	—		Micro	ML-01
3.733	+0.000/-0.005	3.733	—		Vern	ML-7
0.970	+0.010/-0.000	.971	—		"	"
0.700	+0.010/-0.000	.700	—		"	"

Measured by:	ML	Audited by:	LL	Prototype Approval:	N/A
Date:	11/06/28	Date:	11/06/29	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	04.02.25	New Issue	KJ/RF	TH

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

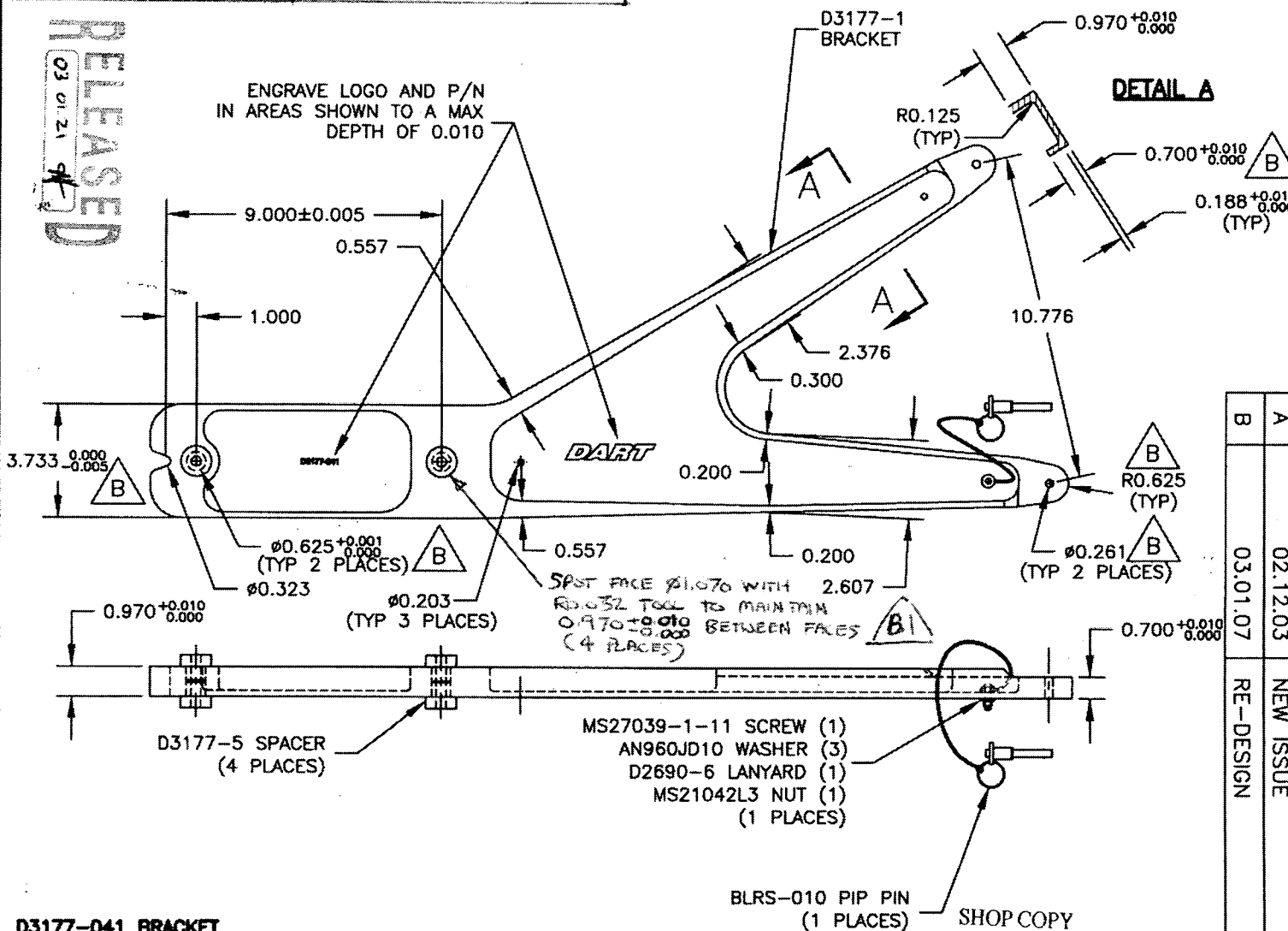
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

B1	03.02.25 (P-#)	ADD SPOT FACE
B2	03.11.24 (P-#)	ADD D3177-7

RELEASED
03.01.21



D3177-041 BRACKET

- 1) MACHINE D3177-1 PER DART DWG "D3177-1.SLDPR" MATERIAL: 6061-T6 ALUMINUM BAR (QQ-A-250/11 OR QQ-A-200/8) (REF DART SPEC. M6061T6S OR M6061T6B)
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 (PRIOR TO ASSEMBLY) POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3 (AFTER ASSEMBLY)
- 4) TOLERANCES ARE PER QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

DART



DESIGN	DRAWN BY	DART AEROSPACE LTD
CHECKED	APPROVED	HAWKESBURY, ONTARIO, CANADA
DATE	DRAWING NO.	REV. B
03.01.07	D3177	SHEET 1 OF 3
A	02.12.03	SCALE
B	03.01.07	1:5
	RE-DESIGN	
	BRACKET	
	NEW ISSUE	

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 71223

11-06-27

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

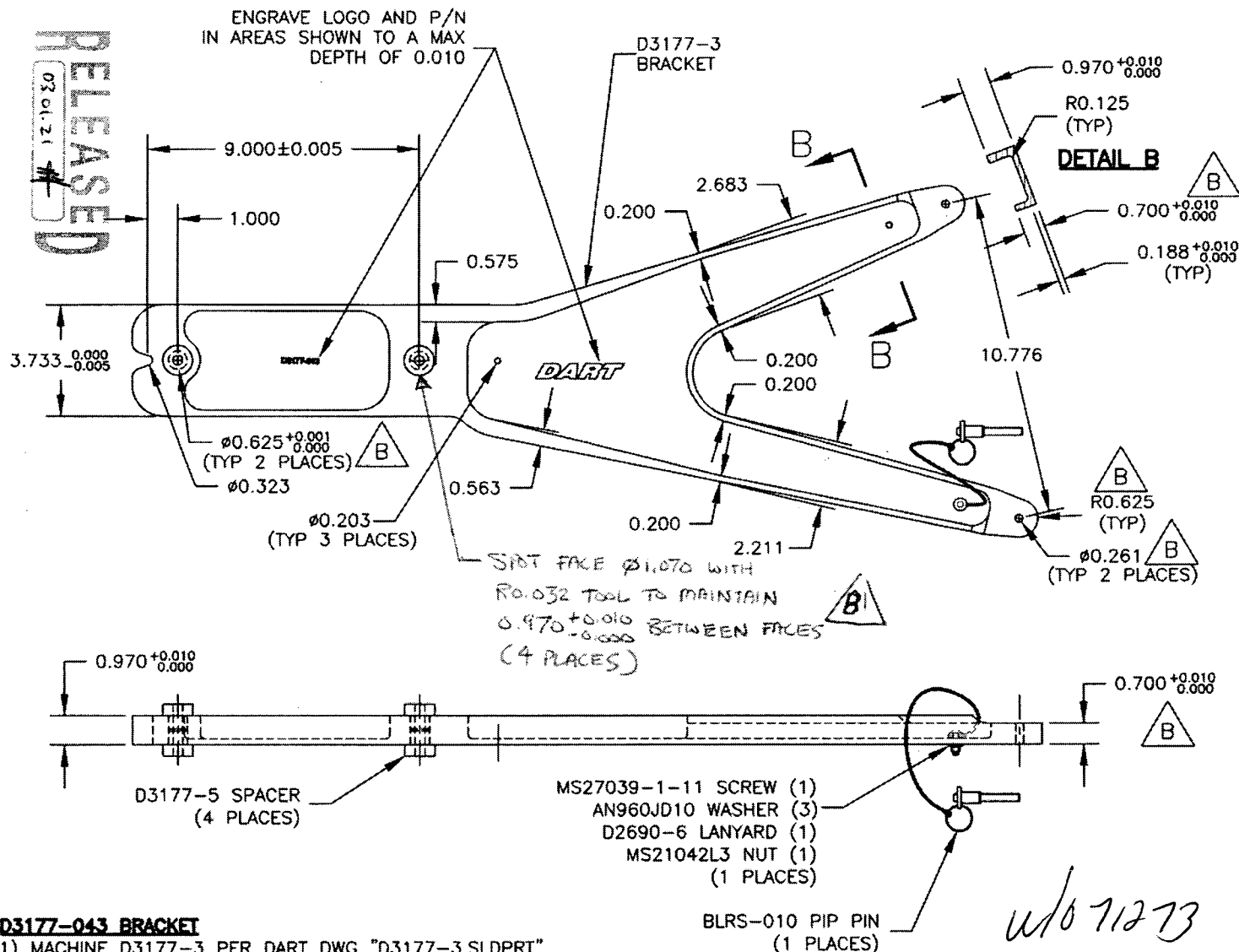
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART



DESIGN	CP	DRAWN BY	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED		APPROVED		REV. B
DATE	03.01.07	DRAWING NO.	D3177	SHEET 2 OF 3
TITLE	BRACKET	SCALE	1:5	



D3177-043 BRACKET

- 1) MACHINE D3177-3 PER DART DWG "D3177-3.SLDPR" MATERIAL: 6061-T6 ALUMINUM BAR (QQ-A-250/11 OR QQ-A-200/8) (REF DART SPEC. M6061T6S OR M6061T6B)
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 (PRIOR TO ASSEMBLY) POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3 (AFTER ASSEMBLY)
- 4) TOLERANCES ARE PER QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

RELEASED
03.01.21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

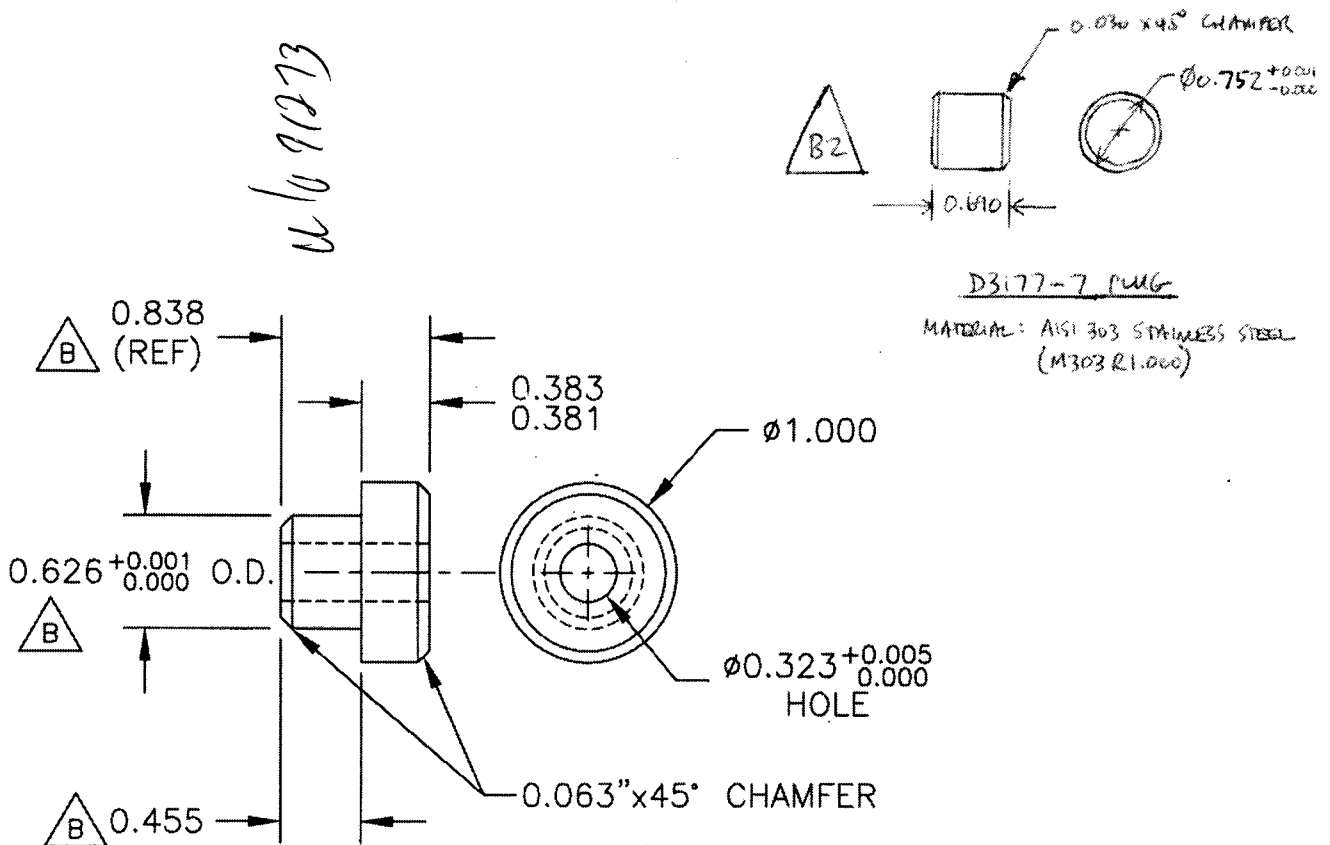
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN CP	DRAWN BY CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D3177	REV. B SHEET 3 OF 3
DATE 03.01.07		TITLE BRACKET	SCALE 1:1



D3177-5

- 1) MATERIAL: 6061-T6 ALUMINUM BAR Ø1.000
(QQ-A-200/8 OR QQ-A-225/8)
(REF DART SPEC. M6061T6R1.000)
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

RELEASED
03-01-21

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries